

# DENON AVR control protocol

Ver. 5.2.0\_a

Application model : AVR-3808/AVC-3808

Application terminal: RS-232C/ Ethernet

## Connector specification

### I. RS-232C

Connector type: DB-9pin female type, slave straight connection (DCE type)

( 1pin : GND , 2pin : TxD , 3pin : RxD , 5pin : Common(GND) , 4,6,7,8,9pin : NC )

Communication format:

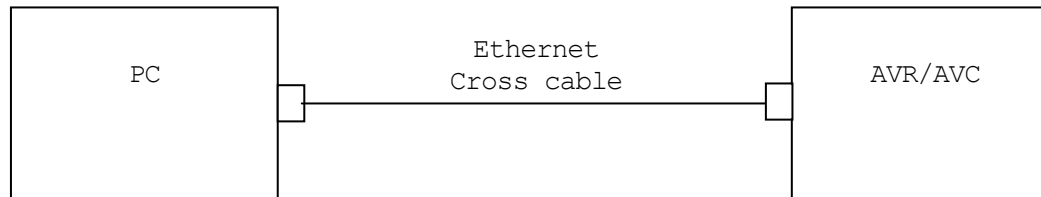
Synchronous system : Tone step synchronization  
Communication system : A half duplex  
Communication speed : 9600bps  
Character length : 8 bits  
Parity control : None  
Start bit : 1 bit  
Stop bit : 1 bit  
Communication procedure : Non procedural  
Communication data length : 135 bytes (maximum)

Version	Date	Contents	Page
5.2.0	06.Jul.'07	Original	
5.2.0_a	23.Jan.'08	1.Added NSE,NSB,NSC for iRadio Control.	23,39
		2.Corrected the Command of IPE,IPA for iPod Control.	24,40,41,42,43
		3.Added Response MS Command for DTS Mode.	30,31
		4.Corrected the Response Command of PSMODE.	32

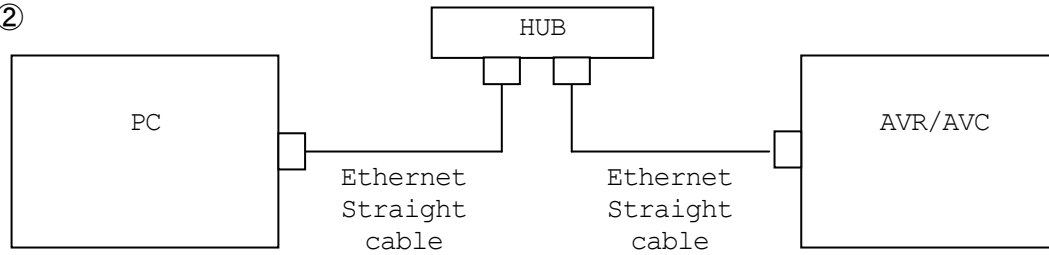
## II. Ethernet

Connector type : RJ-45 (10BASE-T/100BASE-TX)

Example ①



Example ②



Communication format :

Communication system	: A half duplex
Communication speed	: 10Mbps/100Mbps
Communication port	: TCP port 23 (telnet)
Communication data length	: 135bytes (maximum)

## NETWORK SETUP of AVR-4308

### **>Procedure of Network Setup mode.**

(1) Press SYSTEM SETUP button, then System Setup Menu appears on FL-display (and GUI)

(2) Select "Network Setup > Detail" .

(3) Set parameters described below.

<DHCP> "ON"---Use this setting when DHCP server is on the local network.  
"OFF"---Use this setting when DHCP server is not on the local network.

<IP Address> When <DHCP> sets "OFF", please set IP address.  
When <DHCP> sets "ON", you can confirm the IP address that is set by server.

<Subnet Mask> When <DHCP> sets "OFF", please set Subnet Mask.  
When <DHCP> sets "ON", you can confirm the Subnet Mask that is set by server.

<Gateway> Set the address of Gateway when Gateway is on the local network.  
Do not set this parameter when Gateway is not on the local network.

<Primary DNS> Do not set this parameter.

<Second DNS> Do not set this parameter.

<Proxy> Set this parameter "OFF".

#### <Network Option: Standby Mode Power Saving>

(1) Press MENU button, then Menu appears on FL-display (and GUI)

(2) Select "Manual Setup > Network Setup > Other > Power Saving"

(3) Set parameters described below.

"OFF"---Use this setting when using the AVR-4308 connected in a network.

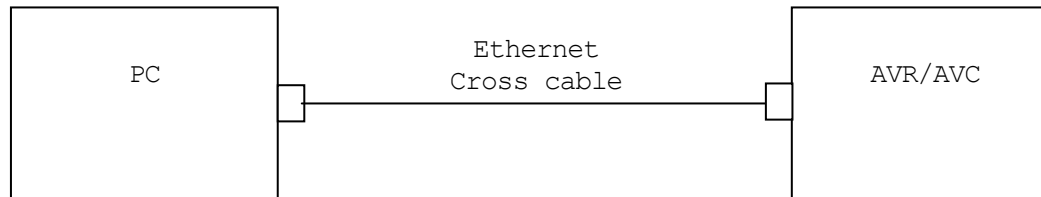
"ON"--- Use this setting when not using the AVR-4308 connected in a network.

This setting is reducing the power consumption in the standby mode.

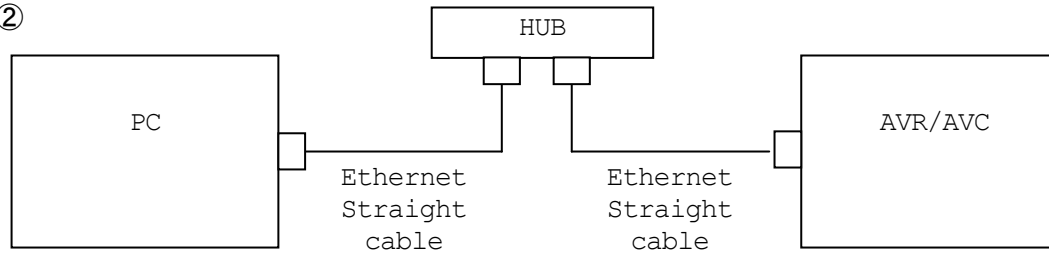
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Example ②



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(3) Set parameters described below.

"OFF"---Use this setting when using the AVR-3808 connected in a network.

"ON"--- Use this setting when not using the AVR-4308 connected in a network.

This setting is reducing the power consumption in the standby mode.

## Protocol specification

The following three data forms are defined.

- COMMAND** : The message sent to a system(AVR) from a controller(Touch Panel etc.)  
A command to a system is given from a controller.
- EVENT** : The message sent to a controller (Touch Panel etc.) from a system (AVR)  
The result is sent, when a system is operated directly and a state changes.  
\*The form of **EVENT** presupposes that it is the same as that of **COMMAND**.  
\*\*Refer to the following table for the contents of **COMMAND** and **EVENT**.
- RESPONSE** : The message sent to a controller (Touch Panel etc.) from a system (AVR)  
if the 'request command' (**COMMAND**+?  
CR(0x0D)) has come from a controller.  
The **RESPONSE** should be sent within 200ms of receiving the **COMMAND**.  
\*The form of **RESPONSE** presupposes that it is the same as that of **EVENT**.

**Basic specification:** The command by ASCII CODE, parameter expression

\*ASCII CODE which can be used is from 0x20 to 0x7F: the alphabet and the number of 0-9, and space (0x20), some signs,  
AND carriage return (0x0D) --- It is used only as a pause sign.

**Command structure:** COMMAND + PARAMETER + CR (0x0D)

COMMAND: ASCII CODE of 2 characters

Ex.        SI : Select Input source  
          MS : surround Mode Setting  
          MV : Master Volume setting  
          PW : system PoWer setting

PARAMETER : ASCII CODE ( up to 25 characters)

ex.        DVD : function name

          SUPER STADIUM : surround mode name

\*Special Parameter--- ? : for request command

**The example of a command**                    \* <CR> is the meaning of 0x0D.

SIDVD<CR> : Select Input source DVD

MSSTEREO<CR> : surround Mode Set to STEREO

MVUP<CR> : Master Volume UP

PWON<CR> : system PoWer ON

PWSTANDBY<CR> : system PoWer STANDBY

SI?<CR> : Request command for now playing input source >> Return **RESPONSE** 'SI\*\*\*<CR>'

## Others

- A) **COMMAND** is receivable also during transmission of **EVENT**.
- B) Since CHANNEL VOLUME changes simultaneously when the SURROUND MODE changes, the value of the channel volume of all channels returns as **EVENT**.
- C) CHANNEL VOLUME returns the data of ALL channels by the present SURROUND MODE also including an intact channel. In this case, the data of an intact channel is set to "50".
- D) Since SURROUND MODE changes simultaneously when the INPUT source changes, the SURROUND MODE (and also the value of the channel volume of all channels , It described in B) ) returns as **EVENT**.
- E) When SURROUND MODE is the same in between INPUT source change before and after, **EVENT** of SURROUND MODE and CHANNEL VOLUME does NOT return.
- F) Although **EVENT** of SURROUND MODE returns when the present SURROUND MODE is set up again, CHANNEL VOLUME does NOT return.
- G) When SURROUND MODE is changed, before returning SURROUND MODE after change as **EVENT**, the present SURROUND MODE is returned.
- H) The **RESPONSE** should be sent as opposed to the request command by all the commands with which an **EVENT** exists , not need to the another request commands(ex. SV command).
- I) The **PARAMETER** (with **COMMAND** and **RESPONSE, EVENT**) of minimum level of MASTER VOLUME defines "99".
- J) If the MASTER VOLUME & CHANNEL VOLUME set with 0.5dB step, the **PARAMETER** (with **COMMAND** and **RESPONSE, EVENT**) defines three ASCII characters as bellows.
- |                              |           |
|------------------------------|-----------|
| Ex. MASTER VOLUME = +1.0dB : | MV81<CR>  |
| +0.5dB :                     | MV805<CR> |
| 0dB :                        | MV80<CR>  |
| -0.5dB :                     | MV795<CR> |
| -1.0dB :                     | MV79<CR>  |
|                              |           |
| -79.5dB :                    | MV005<CR> |
| -80.0dB :                    | MV00<CR>  |
| ---                          | MV99<CR>  |
- \* At the \*\*.0dB step, only uses two ASCII characters as **PARAMETER**, same as usual.
- K) Four seconds later, please transmit the next **COMMAND** after transmitting a power on **COMMAND** (PWON) .



## COMMAND and PARAMETER list

COMMAND	PARAMETER	function	example
PW	ON	POWER ON/STANDBY change	PWON<CR>
	STANDBY		PWSTANDBY<CR>
	?	Return PW Status	PW?<CR>
MV	UP	MASTER VOLUME UP/DOWN , direct change to **dB	MVUP<CR>
	DOWN		MVDOWN<CR>
	**	** : 00 to 99 by ASCII , 80=0dB, 99=--- (MIN)	MV80<CR>
	?	Return MV Status	MV?<CR>
CV	FL UP	CHANNEL VOLUME UP/DOWN , direct change to **dB	CVFL UP<CR>
	FL DOWN	---FRONT Lch	CVFL DOWN<CR>
	FL **	** : 38 to 62 by ASCII , 50=0dB	CVFL 50<CR>
	FR UP		CVFR UP<CR>
	FR DOWN	---FRONT Rch	CVFR DOWN<CR>
	FR **	** : 38 to 62 by ASCII , 50=0dB	CVFR 50<CR>
	C UP		CVC UP<CR>
	C DOWN	---CENTERch	CVC DOWN<CR>
	C **	** : 38 to 62 by ASCII , 50=0dB	CVC 50<CR>
	SW UP		CVSW UP<CR>
	SW DOWN	---SUBWOOFERch	CVSW DOWN<CR>
	SW **	** : 00, 38 to 62 by ASCII , 50=0dB, 00=OFF	CVSW 50<CR>
	SL UP		CVSL UP<CR>
	SL DOWN	---SURROUND Lch	CVSL DOWN<CR>
	SL **	** : 38 to 62 by ASCII , 50=0dB	CVSL 50<CR>
	SR UP		CVSR UP<CR>
	SR DOWN	---SURROUND Rch	CVSR DOWN<CR>
	SR **	** : 38 to 62 by ASCII , 50=0dB	CVSR 50<CR>
	SBL UP	---SURROUND BACK Lch (SBch 2SP)	CVSBL UP<CR>
	SBL DOWN		CVSBL DOWN<CR>
	SBL **	** : 38 to 62 by ASCII , 50=0dB	CVSBL 50<CR>
	SBR UP	---SURROUND BACK Rch (SBch 2SP)	CVSBR UP<CR>
	SBR DOWN		CVSBR DOWN<CR>
	SBR **	** : 38 to 62 by ASCII , 50=0dB	CVSBR 50<CR>

MV, CV **COMMAND** : "\*" parameter uses two or three ASCII characters. (see page4 J) section)

COMMAND	PARAMETER	function	example
CV	SB UP	---SURROUND BACKch (SBch 1SP)	CVSB UP<CR>
	SB DOWN		CVSB DOWN<CR>
	SB **	** : 00 to 99 by ASCII , 50=0dB	CVSB 50<CR>
	?	Return CV Status	CV?<CR>
MU	ON	OUTPUT MUTE ON/OFF change	MUON<CR>
	OFF		MUOFF<CR>
	?	Return MU Status	MU?<CR>
SI	PHONO	Select INPUT source	SIPHONO<CR>
	CD		SICD<CR>
	TUNER		SITUNER<CR>
	DVD		SIDVD<CR>
	HDP		SIHDP<CR>
	TV/CBL		SITV/CBL<CR>
	SAT		SISAT<CR>
	VCR		SIVCR<CR>
	DVR		SIDVR<CR>
	V.AUX		SIV.AUX<CR>
	NET/USB		SINET/USB<CR>
	XM		SIXM<CR>
	IPOD		SIIPOD<CR>
	?	Return SI Status	SI?<CR>
		(North America model Only)	
ZM	ON	MAIN-ZONE ON/OFF change at AVR-3808	ZMON<CR>
	OFF		ZMOFF<CR>
	?	Return ZM Status	ZM?<CR>
SR	PHONO	REC SELECT mode set , and select source ---The name of PARAMETER is the same as that of the time of SI COMMAND.	SRPHONO<CR>
	IPOD		SRIPOD<CR>
	SOURCE	REC SELECT mode cancel	SRSOURCE<CR>
	?	Return SR Status	SR?<CR>

CV **COMMAND** : "\*" parameter uses two ASCII characters. (see page4 J) section)

COMMAND	PARAMETER	function	example
SD	AUTO	set AUTO mode (Priority:HDMI>>DIGITAL>>ANALOG)	SDAUTO<CR>
	HDMI	set force HDMI INPUT mode	SDHDMI<CR>
	DIGITAL	set force DIGITAL INPUT (Optical,Coaxial)mode	SDDIGITAL<CR>
	ANALOG	set force ANALOG INPUT mode	SDANALOG<CR>
	EXT.IN-1	---Set EXT.IN mode at AVR-3808	SDEXT.IN-1<CR>
	?	Return SD Status	SD?<CR>
DC	AUTO	set DIGITAL INPUT AUTO mode	DCAUTO<CR>
	PCM	set DIGITAL INPUT force PCM mode	DCPCM<CR>
	DTS	set DIGITAL INPUT force DTS mode	DCDTS<CR>
	?	Return DC Status	DC?
SV	DVD	VIDEO SELECT mode set , and select source	SVDVD<CR>
	HDP		SVVDP<CR>
	TV/CBL		SVTV/CBL<CR>
	SAT		SVSAT<CR>
	VCR		SVVCR<CR>
	DVR		SVDVR<CR>
	V.AUX		SVV.AUX<CR>
	SOURCE	VIDEO SELECT mode cancel	SVSOURCE<CR>
	?	Return SV Status	SV?<CR>
MS	DIRECT	Select SURROUND mode  (North America model Only)	MSDIRECT<CR>
	PURE DIRECT		MSPURE DIRECT<CR>
	STEREO		MSSTEREO<CR>
	STANDARD		MS STANDARD<CR>
	DOLBY DIGITAL		MSDOLBY DIGITAL<CR>
	DTS SUROUND		MSDTS SURROUND<CR>
	NEURAL		MS NEURAL<CR>
	WIDE SCREEN		MSWIDE SCREEN
	7CH STEREO		MS7CH STEREO<CR>
	SUPER STADIUM		MSSUPER STADIUM<CR>
	ROCK ARENA		MSROCK ARENA<CR>
	JAZZ CLUB		MSJAZZ CLUB<CR>

COMMAND	PARAMETER	function	example
MS	CLASSIC CONCERT		MSCLASSIC CONCERT<CR>
	MONO MOVIE		MSMONO MOVIE<CR>
	MATRIX		MSMATRIX<CR>
	VIDEO GAME		MSVIDEO GAME<CR>
	VIRTUAL		MSVIRTUAL<CR>
	MPEG2 AAC	---Invalid at AVR model (Japan model only)	MSMPEG2 AAC<CR>
	?	Return MS Status	MS?<CR>
	QUICK1	QUICK SELECT 1-3 MODE SELECT	MSQUICK1<CR>
	QUICK2		MSQUICK2<CR>
	QUICK3		MSQUICK3<CR>
	QUICK1 MEMORY	USER1-3 MODE MEMORY	MSQUICK1 MEMORY<CR>
	QUICK2 MEMORY		MSQUICK2 MEMORY<CR>
	QUICK3 MEMORY		MSQUICK3 MEMORY<CR>
	QUICK ?	Return MSQUICK Status	MSQUICK ?<CR>
VS	MONIAUTO	Set HDMI MONITOR automatic detection (Japan model only)	VSMONIAUTO<CR>
	MONI1	Set HDMI MONITOR OUT-1 (Japan model only)	VSMONI1<CR>
	MONI2	Set HDMI MONITOR OUT-2 (Japan model only)	VSMONI2<CR>
	MONI?	Return VSMONITOR Status (Japan model only)	VSMONI?<CR>
	ASPNRM	Set Normal mode	VSASPNRM<CR>
	ASPFUL	Set FULL mode	VSASPFUL<CR>
	ASP?	Return VSASPECT Status	VSASP?<CR>
	SC48P	Set Resolution to 480p/576p	VSSC48P<CR>
	SC10I	Set Resolution to 1080i	VSSC10I<CR>
	SC72P	Set Resolution to 720p	VSSC72P<CR>
	SC10P	Set Resolution to 1080p	VSSC10P<CR>
	SC AUTO	Set Resolution to AUTO	VSSCAUTO<CR>
	SC?	Return VSSCALE Status	VSSC?<CR>

COMMAND	PARAMETER	function	example
PS	TONE DEFEAT ON	PARAMETER setting	PSTONE DEFEAT ON<CR>
	TONE DEFEAT OFF	TONE DEFEAT ON/OFF	PSTONE DEFEAT OFF<CR>
	TONE DEFEAT ?	Return PSTONE DEFEAT Status	PSTONE DEFEAT ?<CR>
	SB:MTRX ON	SURROUND BACK SP MODE set	PSSB:MTRX ON<CR>
	SB:NON MTRX		PSSB:NON MTRX<CR>
	SB:PL2xCINEMA		PSSB:PL2X CINEMA<CR>
	SB:PL2xMUSIC		PSSB:PL2X MUSIC<CR>
	<b>SB:ON</b>		<b>PSSB:ON&lt;CR&gt;</b>
	SB:OFF		PSSB:OFF<CR>
	SB: ?	Return PSSB: Status	PSSB: ?<CR>
	CINEMA EQ.ON	CINEMA EQ. ON/OFF	PSCINEMA EQ.ON<CR>
	CINEMA EQ.OFF		PSCINEMA EQ.OFF<CR>
	CINEMA EQ. ?	Return PSCINEMA EQ.Status	PSCINEMA EQ. ?<CR>
	MODE:MUSIC	CINEMA / MUSIC / GAME / PL mode change (This parameter can change DOLBY PL2, PL2x, NEO:6 mode.) ---SB=ON : PL2x mode / SB=OFF : PL2 mode --- GAME can change DOLBY PL2 & PL2x mode --- PL can change ONLY DOLBY PL2 mode	PSMODE:MUSIC<CR>
	MODE:CINEMA		PSMODE:CINEMA<CR>
	MODE:GAME		PSMODE:GAME<CR>
	MODE:PRO LOGIC		PSMODE:PRO LOGIC<CR>
	MODE: ?	Return PSMODE: Status	PSMODE: ?<CR>
	ROOM EQ:AUDYSSEY	ROOM EQ mode direct change	PSROOM EQ:AUDYSSEY<CR>
	<b>ROOM EQ:BYP.LR</b>		<b>PSROOM EQ:BYP.LR&lt;CR&gt;</b>
	ROOM EQ:FLAT		PSROOM EQ:FLAT<CR>
	ROOM EQ:MANUAL		PSROOM EQ:MANUAL<CR>
	ROOM EQ:OFF		PSROOM EQ:OFF<CR>
	ROOM EQ ?	Return PSROOM EQ: Status	PSROOM EQ: ?<CR>
	<b>BAS UP</b>	BASS UP/DOWN , direct change to **dB	<b>PSBAS UP&lt;CR&gt;</b>
	<b>BAS DOWN</b>	** : 00 to 99 by ASCII , 50=0dB	<b>PSBAS DOWN&lt;CR&gt;</b>
	<b>BAS **</b>	---AVR-3808 can be operated from -6 to +6(44 to 56)	<b>PSBAS 50&lt;CR&gt;</b>
	<b>BAS ?</b>	Return PSBAS Status	<b>PSBAS ?&lt;CR&gt;</b>

PS **COMMAND** : "\*" parameter uses two ASCII characters. (see page4 J) section)

COMMAND	PARAMETER	function	example
PS	TRE UP	TREBLE UP/DOWN , direct change to **dB	PSTRE UP<CR>
	TRE DOWN	** : 00 to 99 by ASCII , 50=0dB	PSTRE DOWN<CR>
	TRE **	---AVR-3808 can be operated from -6 to +6(44 to 56)	PSTRE 50<CR>
	TRE ?	Return PSTRE Status	PSTRE ?<CR>
	DRC AUTO	DRC direct change	PSDRC AUTO<CR>
	DRC LOW		PSDRC LOW<CR>
	DRC MID		PSDRC MID<CR>
	DRC HI		PSDRC HI<CR>
	DRC OFF		PSDRC OFF<CR>
	DRC ?		PSDRC ?<CR>
	DCO OFF	D.COMP direct change	PSDCO OFF<CR>
	DCO LOW		PSDCO LOW<CR>
	DCO MID		PSDCO MID<CR>
	DCO HIGH		PSDCO HIGH<CR>
	DCO ?		PSDCO ?<CR>
	LFE UP	LFE UP/DOWN , direct change to **dB	PSLEE UP<CR>
	LFE DOWN	** : 00 to 99 by ASCII , 00=0dB, 10=-10dB	PSLFE DOWN<CR>
	LFE **	---AVR-3808 can be operated from 0 to -10	PSLFE 10<CR>
	LFE ?	Return PSLFE Status	PSLFE ? <CR>
	EFF ON	EFFECT ON/OFF , EFFECT LEVEL direct change to **dB	PSEFF UP<CR>
	EFF OFF	** : 00 to 99 by ASCII , 00=0dB, 10=10dB	PSEFF DOWN<CR>
	EFF **	---AVR-3808 can be operated from 1 to 15	PSEFF **<CR>
	EFF ?	Return PSEFF Status	PSEFF ?<CR>
	DEL UP	DELAY UP/DOWN , direct change to ***dB	PSDEL UP<CR>
	DEL DOWN	*** : 000 to 999 by ASCII , 000=0ms, 300=300ms	PSDEL DOWN<CR>
	DEL ***	---AVR-3808 can be operated from 0 to 300	PSDEL ***<CR>
	DEL ?	Return PSDEL Status	PSDEL ?<CR>
	AFD ON	AFDM ON/OFF	PSAFD ON<CR>
	AFD OFF		PSAFD OFF<CR>
	AFD ?		PSAFD ?<CR>

PS **COMMAND** : "\*" parameter uses two or three ASCII characters. (see page4 J) section)

COMMAND	PARAMETER	function	example
PS	PAN ON	PANORAMA ON/OFF	PSPAN ON<CR>
	PAN OFF		PSPAN OFF<CR>
	PAN ?	Return PSPAN Status	PSPAN ?<CR>
	DIM UP	DIMENSION UP/DOWN , direct change to **dB	PSDIM UP<CR>
	DIM DOWN		PSDIM DOWN<CR>
	DIM **	---AVR-3808 can be operated from 0 to 6	PSDIM **<CR>
	DIM ?	Return PSDIM Status	PSDIM ?<CR>
	CEN UP	CENTER WIDTH UP/DOWN , direct change to **dB	PSCEN UP<CR>
	CEN DOWN		PSCEN DOWN<CR>
	CEN **	---AVR-3808 can be operated from 0 to 7	PSCEN 07<CR>
	CEN ?	Return PSCEN Status	PSCEN ?<CR>
	CEI UP	CENTER IMAGE UP/DOWN , direct change to **dB	PSCEI UP<CR>
	CEI DOWN		PSCEI DOWN<CR>
	CEI **	---AVR-3808 can be operated from 0.0 to 1.0	PSCEI 10<CR>
	CEI?	Return PSCEI Status	OSCEI ?<CR>
	ATT ON	SW ATT ON/OFF	PSATT ON<CR>
	ATT OFF		PSATT OFF<CR>
	ATT ?	Return PSATT Status	PSATT ?<CR>
	SWR ON	SW ON/OFF	PSSWR ON<CR>
	SWR OFF		PSSWR OFF<CR>
	SWR ?	Return PSSWR Status	PSSWR ?<CR>
	RSZ S	ROOM SIZE direct change	PSRSZ S<CR>
	RSZ MS		PSRSZ MS<CR>
	RSZ M		PSRSZ M<CR>
	RSZ ML		PSRSZ ML<CR>
	RSZ L		PSRSZ L<CR>
	RSZ ?	Return PSRSZ Status	PSRSZ ?<CR>
	DELAY UP	AUDIO DELAY UP/DOWN , direct change to ***dB	PSDELAY UP<CR>
	DELAY DOWN		PSDELAY DOWN<CR>
	DELAY ***	---AVR-3808 can be operated from 0 to 200	PSDELAY 200<CR>

PS **COMMAND** : "" parameter uses two or three ASCII characters. (see page4 J) section)

COMMAND	PARAMETER	function	example
PS	NIGHT OFF	NIGHT MODE direct change	PSNIGHT OFF<CR>
	NIGHT LOW		PSNIGHT LOW<CR>
	NIGHT MID		PSNIGHT MID<CR>
	NIGHT HI		PSNIGHT HI<CR>
	NIGHT ?	Return PSNIGHT Status	PSNIGHT ?<CR>
	RSTR OFF	AUDIO RESTORER direct change	PSRSTR OFF<CR>
	RSTR MODE1		PSRSTR MODE1<CR>
	RSTR MODE2		PSRSTR MODE2<CR>
	RSTR MODE3		PSRSTR MODE3<CR>
	RSTR ?	Return PSRSTR Status	PSRSTR ?<CR>
PV	CN UP	CONTRAST UP/DOWN , direct change to **dB	PVCN UP<CR>
	CN DOWN	** : 44 to 56 by ASCII , 50=0	PVCN DOWN<CR>
	CN **	---AVR-3808 can be operated from -6 to +6(44 to 56)	PVCN 06<CR>
	CN ?	Return PSCN Status	PVCN ?<CR>
	BR UP	BRIGHTNESS UP/DOWN , direct change to **dB	PVBR UP<CR>
	BR DOWN	** : 00 to 12 by ASCII , 00=0	PVBR DOWN<CR>
	BR **	---AVR-3808 can be operated from 0 to 12	PVBR 12<CR>
	BR ?	Return PSBR Status	PVBR ?<CR>
	CM UP	CROMA LEVET UP/DOWN , direct change to **dB	PVCM UP<CR>
	CM DOWN	** : 44 to 56 by ASCII , 50=0	PVSCM DOWN<CR>
	CM **	---AVR-3808 can be operated from -6 to +6(44 to 56)	PVCM 06<CR>
	CM ?	Return PSCN Status	PVCM ?<CR>
	HUE UP	HUE UP/DOWN , direct change to **dB	PVHUE UP<CR>
	HUE DOWN	** : 44 to 56 by ASCII , 50=0	PVHUE DOWN<CR>
	HUE **	---AVR-3808 can be operated from -6 to +6(44 to 56)	PVHUE 06<CR>
	HUE ?	Return PSCN Status	PVHUE ?<CR>

PV **COMMAND** : "\*" parameter uses two ASCII characters. (see page4 J) section)



COMMAND	PARAMETER	function	example
Z2	PHONO   <b>IPOD</b>	MULTI ZONE-2 mode set , and select source at AVR-3808 ---The name of PARAMETER is the same as that of the time of SI COMMAND.	Z2PHONO<CR>   Z2IPOD<CR>
	SOURCE	MULTI ZONE-2 mode cancel at AVR-3808	Z2SOURCE<CR>
	UP	MULTI ZONE-2 VOLUME UP/DOWN , direct change to **dB at AVR-3808	Z2UP<CR>
	DOWN		Z2DOWN<CR>
	**	** : 10 to 99 by ASCII , 80=0dB, 99=--- (MIN)	Z280<CR>
	ON	MULTI ZONE-2 ON/OFF change at AVR-3808	Z2ON<CR>
	OFF		Z2OFF<CR>
	?	Return Z2 Status	Z2?<CR>
Z2MU	ON	ZONE2 OUTPUT MUTE ON/OFF change	Z2MUON<CR>
	OFF		Z2MUOFF<CR>
	?	Return Z2MU Status	Z2MU?<CR>
Z2CS	<b>ST</b>	ZONE2 Channel setting	<b>Z2CSST</b>
	<b>MONO</b>		<b>Z2CSMONO</b>
	?	Return Z2CS Status	<b>Z2CS?</b>
Z2CV	<b>FL UP</b>	ZONE2 CHANNEL VOLUME UP/DOWN , direct change to **dB ---FRONT Lch	<b>Z2CVFL UP&lt;CR&gt;</b>
	<b>FL DOWN</b>		<b>Z2CVFL DOWN&lt;CR&gt;</b>
	<b>FL **</b>		<b>Z2CVFL 50&lt;CR&gt;</b>
	<b>FR UP</b>	ZONE2 CHANNEL VOLUME UP/DOWN , direct change to **dB ---FRONT Rch	<b>Z2CVFR UP&lt;CR&gt;</b>
	<b>FR DOWN</b>		<b>Z2CVFR DOWN&lt;CR&gt;</b>
	<b>FR **</b>		<b>Z2CVFR 50&lt;CR&gt;</b>
	?	Return Z2CV Status	<b>Z2CV?&lt;CR&gt;</b>
Z2HPF	ON	ZONE2 HPF ON/OFF	<b>Z2HPFON&lt;CR&gt;</b>
	OFF		<b>Z2HPFOFF&lt;CR&gt;</b>
	?	Return Z2HPF Status	<b>Z2HPF?&lt;CR&gt;</b>

Z2 **COMMAND** : "\*" parameter uses two ASCII characters. (see page4 J) section)

Except Japan model.

<b>COMMAND</b>	<b>PARAMETER</b>	<b>function</b>	<b>example</b>
<b>Z2PS</b>	<b>BAS UP</b>	ZONE2 BASS UP/DOWN , direct change to **dB	<b>Z2PSBAS UP&lt;CR&gt;</b>
	<b>BAS DOWN</b>	** : 00 to 99 by ASCII , 00=0dB	<b>Z2PSBAS DOWN&lt;CR&gt;</b>
	<b>BAS **</b>	---AVR-3808 can be operated from -10 to +10(40 to 60)	<b>Z2PSBAS 00&lt;CR&gt;</b>
	<b>BAS ?</b>	Return Z2PSBAS Status	<b>Z2PSBAS ?&lt;CR&gt;</b>
	<b>TRE UP</b>	ZONE2 TREBLE UP/DOWN , direct change to **dB	<b>Z2PSTRE UP&lt;CR&gt;</b>
	<b>TRE DOWN</b>	** : 00 to 99 by ASCII , 00=0dB	<b>Z2PSTRE DOWN&lt;CR&gt;</b>
	<b>TRE **</b>	---AVR-3808 can be operated from -10 to +10(40 to 60)	<b>Z2PSTRE 00&lt;CR&gt;</b>
	<b>TRE ?</b>	Return Z2PSTRE Status	<b>Z2PSTRE ?&lt;CR&gt;</b>

Z2 **COMMAND** : "\*" parameter uses two ASCII characters. (see page4 J) section)

Except Japan model

COMMAND	PARAMETER	function	example
Z3	PHONO   IPOD	MULTI ZONE-3 mode set , and select source at AVR-3808 ---The name of PARAMETER is the same as that of the time of SI COMMAND.	Z3PHONO<CR>   Z3IPOD<CR>
	SOURCE	MULTI ZONE-3 mode cancel	Z3SOURCE<CR>
	UP	MULTI ZONE-3 VOLUME UP/DOWN , direct change to **dB	Z3UP<CR>
	DOWN		Z3DOWN<CR>
	**		Z380<CR>
	ON	MULTI ZONE-3 ON/OFF change at AVR-3808	Z3ON<CR>
	OFF		Z3OFF<CR>
	?	Return Z3 Status	Z2?<CR>
Z3MU	ON	ZONE3 OUTPUT MUTE ON/OFF change	Z3MUON<CR>
	OFF		Z3MUOFF<CR>
	?	Return Z3MU Status	Z3MU?<CR>
Z3CS	ST	ZONE3 Channel setting	Z3CSST
	MONO		Z3CSMONO
	?	Return Z3CS Status	Z3CS?
Z3CV	FL UP	ZONE3 CHANNEL VOLUME UP/DOWN , direct change to **dB ---FRONT Lch	Z3CVFL UP<CR>
	FL DOWN		Z3CVFL DOWN<CR>
	FL **		Z3CVFL 50<CR>
	FR UP	ZONE3 CHANNEL VOLUME UP/DOWN , direct change to **dB ---FRONT Rch	Z3CVFR UP<CR>
	FR DOWN		Z3CVFR DOWN<CR>
	FR **		Z3CVFR 50<CR>
	?	Return Z2CV Status	Z3CV?<CR>
Z3HPF	ON	ZONE3 HPF ON/OFF	Z3HPFON<CR>
	OFF		Z3HPFOFF<CR>
	?	Return Z3HPF Status	Z3HPF?<CR>

Z3 **COMMAND** : "\*" parameter uses two ASCII characters. (see page4 J) section)

Except Japan model

COMMAND	PARAMETER	function	example
Z3PS	BAS UP	ZONE3 BASS UP/DOWN , direct change to **dB	Z3PSBAS UP<CR>
	BAS DOWN	** : 00 to 99 by ASCII , 00=0dB	Z3PSBAS DOWN<CR>
	BAS **	---AVR-3808 can be operated from -10 to +10(40 to 60)	Z3PSBAS 00<CR>
	BAS ?	Return Z3PSBAS Status	Z3PSBAS ?<CR>
	TRE UP	ZONE3 TREBLE UP/DOWN , direct change to **dB	Z3PSTRE UP<CR>
	TRE DOWN	** : 00 to 99 by ASCII , 00=0dB	Z3PSTRE DOWN<CR>
	TRE **	---AVR-3808 can be operated from -10 to +10(40 to 60)	Z3PSTRE 00<CR>
	TRE ?	Return Z3PSTRE Status	Z3PSTRE ?<CR>

Z3 **COMMAND** : "\*" parameter uses two ASCII characters. (see page4 J) section)

※ANALOG TUNER Control (AVR model only)

COMMAND	PARAMETER	function	example
TF	ANUP	TUNER Frequency UP/DOWN	TFANUP<CR>
	ANDOWN		TFANDOWN<CR>
	AN***** (6 digits)	--- ****.* kHz at AM band (>050000 is AM.) ****.* MHz at FM band (<050000 is FM.)	TFAN105000<CR> (1050.00kHz at AM)
	AN?	Return TF Status	TFAN?<CR>
TP	ANUP	TUNER PRESET CH UP/DOWN , direct change to No.**	TPANUP<CR>
	ANDOWN		TPANDOWN<CR>
	AN** (PRESET No.)		TPANA1<CR> (PRESET No."A1")
	AN?		TPAN?<CR>
	ANMEMORY	TUNER PRESET MEMORY	TPANMEMORY<CR>
TM	ANAM	TUNER BAND , MODE Select ---Band set to AM	TMANAM<CR>
	ANFM	---Band set to FM	TMANFM<CR>
	AN?	Return TM Status	TMAN?<CR>
	ANAUTO	---Tuning mode set to AUTO mode	TMANAUTO<CR>
	ANMANUAL	---Tuning mode set to MANUAL mode	TMANMANUAL<CR>

TF, TP, TM **COMMAND** : '\*' parameters can NOT operate when INPUT source isn't TUNER.

※XM Control (North America model only)

COMMAND	PARAMETER	function	example
TF	XMUP	XM Channel UP/DOWN	TFXMUP<CR>
	XMDOWN		TFXMDOWN<CR>
	XM*** (3 digits)	--- **:XM CH No.	TFXM001<CR> (XM001 CH at XM)
	XM?	Return TFXM Status	TFXM?<CR>
TP	XMUP	XM PRESET CH UP/DOWN , direct change to No.**	TPXMUP<CR>
	XMDOWN		TPXMDOWN<CR>
	XM** (PRESET No.)		TPXMA1<CR> (PRESET No."A1")
	XM?	Return TPXM Status	TPXM?<CR>
	XMMEM	XM PRESET MEMORY	TPXMMEM<CR>
XM	?	Return XM Status - CHANNEL NAME, ARTIST, TITLE, SIGNAL LEVEL	XM?<CR>

# ❖iRadio/mServer/USB Extended Control

COMMAND	PARAMETER	function	example
SI	USB	Select INPUT source NET/USB and USB Start Playback	SIUSB<CR>
Z2	USB	Select MULTI ZONE-2 source NET/USB and USB Start Playback (Except Japan model)	Z2USB<CR>
Z3	USB	Select MULTI ZONE-3 source NET/USB and USB Start Playback	Z3USB<CR>
NS	90	"Cursor Up" Control	NS90<CR>
	91	"Cursor Down" Control	NS91<CR>
	92	"Cursor Left" Control	NS92<CR>
	93	"Cursor Right" Control	NS93<CR>
	94	"Enter (Play/Pause)" Control	NS94<CR>
	9A	"Play" Control	NS9A<CR>
	9B	"Pause" Control	NS9B<CR>
	9C	"Stop" Control	NS9C<CR>
	9D	"Skip Plus" Control	NS9D<CR>
	9E	"Skip Minus" Control	NS9E<CR>
	9H	"Repeat One" (USB Only)	NS9H<CR>
	9I	"Repeat All" (USB Only)	NS9I<CR>
	9J	"Repeat Off" (USB Only)	NS9J<CR>
	9K	"Random On/Repeat ALL" (USB Only)	NS9K<CR>
	9L	"Random Off" (USB Only)	NS9L<CR>
	9X	"Page Up" Control	NS9X<CR>
	9Y	"Page Down" Control	NS9Y<CR>
NSA		Return Onscreen Display Information List (ASCII CODE Character)	NSA<CR> (Return NSA0-NSA8,Refer to Page 38)
NSE		Request Onscreen Display Information List (UTF-8 CODE Character)	NSE<CR> (Return NSE0-NSE8,Refer to Page 39)
NSB	**	"Direct Preset CH Play"	NSB00<CR> (** : 00-55, 00=A1, 01=A2, B1=08, G8=55)
NSC	**	"Direct Preset CH Memory"	NSC00<CR> (** : 00-55, 00=A1, 01=A2, B1=08, G8=55)
NSD	*	"Direct Character Search"	NSD0<CR> (* : 0-9, A-Z)

# ※iPod Extended Control

COMMAND	PARAMETER	function	example
IP	90	"Cursor Up" Control	IP90<CR>
	91	"Cursor Down" Control	IP91<CR>
	92	"Cursor Left" Control	IP92<CR>
	93	"Cursor Right" Control	IP93<CR>
	94	"Enter (Play/Pause)" Control	IP94<CR>
	9A	"Play/Pause" Control	IP9A<CR>
	9C	"Stop" Control	IP9C<CR>
	9D	"Skip Plus" Control	IP9D<CR>
	9E	"Skip Minus" Control	IP9E<CR>
	9F	"Manual Search Plus" Control	IP9F<CR>
	9G	"Manual Search Minus" Control	IP9G<CR>
	9H	"Repeat One" Control	IP9H<CR>
	9I	"Repeat All" Control	IP9I<CR>
	9J	"Repeat Off" Control	IP9J<CR>
	9K	"Shuffle Songs" Control	IP9K<CR>
	9L	"Shuffle Album" Control	IP9L<CR>
	9M	"Shuffle Off" Control	IP9M<CR>
	9N	"MENU" Control	IP9N<CR>
	9P	Switch the "Browse Mode" Control	IP9P<CR>
	9Q	Switch the "Remote Mode" Control	IP9Q<CR>
	9X	"Page Up" Control	IP9X<CR>
	9Y	"Page Down" Control	IP9Y<CR>
IPA		Return Onscreen Display Information List (ASCII CODE Character)	IPA<CR> (Return IPA0~IPA9, Refer to Page 40~41)
IPE		Request Onscreen Display Information List(iPOD) (UTF-8 CODE Character)	IPE<CR> (Return IPE0~IPE9, Refer to Page 42~43)



※Cursor/Enter/Menu (Setup)

COMMAND	PARAMETER	function	example
MN	CUP	"Cursor Up" Control	MNCUP<CR>
	CDN	"Cursor Down" Control	MNCDN<CR>
	CLT	"Cursor Left" Control	MNCLT<CR>
	CRT	"Cursor Right" Control	MNCRT<CR>
	ENT	"Enter" Control	MNENT<CR>
	RTN	"RETURN" Control	MNRTN<CR>
	MEN ON	"GUI Menu ON" Control	MNMEN ON<CR>
	MEN OFF	"GUI Menu OFF" Control	MNMEN OFF<CR>

※Remote Lock/Panel Lock

<i>COMMAND</i>	<i>PARAMETER</i>	function	example
SY	REMOTE LOCK ON	REMOTE CONTROL LOCK ON/OFF	SYREMOTE LOCK ON<CR>
	REMOTE LOCK OFF		SYREMOTE LOCK OFF<CR>
	PANEL LOCK ON	PANEL BUTTON (Except MASTER VOL.) CONTROL LOCK ON	SYPANEL LOCK ON<CR>
	PANEL+V LOCK ON	PANEL BUTTON & MASTER VOL. CONTROL LOCK ON	SYPANEL+V LOCK ON<CR>
	PANEL LOCK OFF	PANEL BUTTUM & MASTER VOL. CONTROL LOCK OFF	SYPANEL LOCK OFF<CR>

## EVENT (or RESPONSE) and PARAMETER list

<b>EVENT</b>	<b>PARAMETER</b>	function	example
PW	ON	POWER ON/STANDBY change	PWON<CR>
	STANDBY		PWSTANDBY<CR>
MV	**	MASTER VOLUME change , **:00 to 99 by ASCII 98 = +18dB (MAX) 80 = 0dB 00 = -80dB 99 = --- (MIN)	MV80<CR>
CV	FL **	CHANNEL VOLUME change , **:00,38 to 62 by ASCII 62 = +12dB (MAX) 50 = 0dB 38 = -12dB (MIN) 00 = OFF (define ONLY SWch in DIRECT mode.)  (at SBch 2SP) (at SBch 2SP) (at SBch 1SP)	CVFL 50<CR>
	FR **		CVFR 50<CR>
	C **		CVC 50<CR>
	SW **		CVSW 50<CR>
	SL **		CVSL 50<CR>
	SR **		CVSR 50<CR>
	SBL **		CVSBL 50<CR>
	SBR **		CVSBR 50<CR>
	SB **		CVSB 50<CR>
MU	ON	OUTPUT MUTE ON/OFF change	MUON<CR>
	OFF		MUOFF<CR>
SI	PHONO	INPUT source change	SIPHONO<CR>
	CD		SICD<CR>
	TUNER		SITUNER<CR>
	DVD		SIDVD<CR>
	HDP		SIHDP<CR>
	TV/CBL		SITV/CBL<CR>
	SAT		SISAT<CR>
	VCR		SIVCR<CR>
	DVR		SIDVR<CR>
	V.AUX		SIV.AUX<CR>

The **PARAMETER** of MV, CV **EVENT** : Uses two or three ASCII characters. (see page4 J) section)

<b>EVENT</b>	<b>PARAMETER</b>	function	example
SI	<b>NET/USB</b>	(North America model Only)	<b>SINET/USB&lt;CR&gt;</b>
	<b>XM</b>		<b>SIHDRADIO&lt;CR&gt;</b>
	<b>USB</b>		<b>SIUSB&lt;CR&gt;</b>
	<b>IPOD</b>		<b>SIIPOD&lt;CR&gt;</b>
ZM	ON	MAIN-ZONE ON/OFF change	ZMON<CR>
	OFF		ZMOFF<CR>
SR	PHONO   IPOD	REC SELECT source change ---The name of PARAMETER is the same as that of the time of SI COMMAND.	SRPHONO<CR>   SRAUXIPOD<CR>
	SOURCE	REC SELECT mode cancel	SRSOURCE<CR>
SD	AUTO	INPUT mode change  ---Set EXT.IN mode at AVR-3808	SDAUTO<CR>
	<b>HDMI</b>		<b>SDHDMI&lt;CR&gt;</b>
	<b>DIGITAL</b>		<b>SDDIGITAL&lt;CR&gt;</b>
	ANALOG		SDANALOG<CR>
	EXT.IN-1		SDEXT.IN-1<CR>
DC	<b>AUTO</b>	DIGITAL INPUT mode change	<b>DCAUTO&lt;CR&gt;</b>
	<b>PCM</b>		<b>DCPCM&lt;CR&gt;</b>
	<b>DTS</b>		<b>DCDTS&lt;CR&gt;</b>
SV	DVD	VIDEO SELECT mode source change	SVDVD<CR>
	<b>HDP</b>		<b>SVVDP&lt;CR&gt;</b>
	<b>TV/CBL</b>		<b>SVTV/CBL&lt;CR&gt;</b>
	<b>SAT</b>		<b>SVSAT&lt;CR&gt;</b>
	<b>VCR</b>		<b>SVVCR&lt;CR&gt;</b>
	<b>DVR</b>		<b>SVDVR&lt;CR&gt;</b>
	V.AUX		SVV.AUX<CR>
	SOURCE		SVSOURCE<CR>

<b>EVENT</b>	<b>PARAMETER</b>	function	example
MS	DIRECT	SURROUND mode change	MSDIRECT<CR>
	PURE DIRECT		MSPURE DIRECT<CR>
	STEREO		MSSTEREO<CR>
	MULTI CH IN		MSMULTI CH IN<CR>
	MULTI CH IN +PL2x C		MSM CH IN+PL2X C<CR>
	MULTI CH IN +PL2x M		MSM CH IN+PL2X M<CR>
	MULTI CH DIRECT		MSMULTI CH DIRECT<CR>
	MULTI CH DIRECT +PL2x C		MSM CH DRCT+PL2X C <CR>
	MULTI CH DIRECT +PL2x M		MSM CH DRCT+PL2X M <CR>
	MULTI CH PURE D		MSMULTI CH PURE D<CR>
	MULTI CH PURE D +PL2x C		MSM CH PURE D+PL2X C <CR>
	MULTI CH PURE D +PL2x M		MSM CH PURE D+PL2X M <CR>
	<b>MULTI CH IN 7.1</b>		<b>MSMULTI CH IN 7.1&lt;CR&gt;</b>
	<b>M DIRECT 7.1</b>		<b>MSM DIRECT 7.1&lt;CR&gt;</b>
	<b>M CH PURE D 7.1</b>		<b>MSM CH PURE D 7.1&lt;CR&gt;</b>
	DOLBY PRO LOGIC		MSDOLBY PRO LOGIC<CR>
	DOLBY PL2 CINEMA		MSDOLBY PL2 C<CR>
	DOLBY PL2 MUSIC		MSDOLBY PL2 M<CR>
	DOLBY PL2 G		MSDOLBY PL2 G<CR>
	DOLBY PL2x C		MSDOLBY PL2X C<CR>
	DOLBY PL2x M		MSDOLBY PL2X M<CR>
	DOLBY PL2x G		MSDOLBY PL2X G<CR>
	DOLBY DIGITAL		MSDOLBY DIGITAL<CR>
	DOLBY D EX		MSDOLBY D EX<CR>
	DOLBY D +PL2x C		MSDOLBY D+PL2X C<CR>
	DOLBY D +PL2x M		MSDOLBY D+PL2X M<CR>

<b>EVENT</b>	<b>PARAMETER</b>	function	example
MS	DTS NEO:6 C		MSDTS NEO:6 C<CR>
	DTS NEO:6 M		MSDTS NEO:6 M<CR>
	DTS SURROUND		MSDTS SURROUND<CR>
	DTS ES DSCRT6.1		MSDTS ES DSCRT6.1<CR>
	DTS ES MTRX6.1		MSDTS ES MTRX6.1<CR>
	DTS+PL2x C		MSDTS+PL2X C<CR>
	DTS+PL2x M		MSDTS+PL2X M<CR>
	<b>DTS+NEO:6</b>		<b>MSDTS+NEO:6&lt;CR&gt;</b>
	<b>DTS96/24</b>		<b>MSDTS96/24&lt;CR&gt;</b>
	<b>DTS96 ES MTRX</b>		<b>MSDTS96 ES MTRX&lt;CR&gt;</b>
	WIDE SCREEN		MSWIDE SCREEN<CR>
	5CH STEREO		MS5CH STEREO<CR>
	7CH STEREO		MS7CH STEREO<CR>
	SUPER STADIUM		MSSUPER STADIUM<CR>
	ROCK ARENA		MSROCK ARENA<CR>
	JAZZ CLUB		MSJAZZ CLUB<CR>
	CLASSIC CONCERT		MSCCLASSIC CONCERT<CR>
	MONO MOVIE		MSMONO MOVIE<CR>
	MATRIX		MSMATRIX<CR>
	VIDEO GAME		MSVIDEO GAME<CR>
	VIRTUAL		MSVIRTUAL<CR>
	DSD DIRECT		MSDSD DIRECT<CR>
	DSD PURE DIRECT		MSDSD PURE DIRECT<CR>
	DSD MULTI DRCT		MSDSD MULTI DRCT<CR>
	DSD MULTI PURE		MSDSD MULTI PURE<CR>
	<b>MPEG2 AAC</b>	(JAPAN model Only )	<b>MSMPEG2 AAC&lt;CR&gt;</b>
	<b>AAC+DOLBY EX</b>	(JAPAN model Only )	<b>MSAAC+DOLBY EX&lt;CR&gt;</b>
	<b>AAC+PL2x C</b>	(JAPAN model Only )	<b>MSAAC+PL2X C&lt;CR&gt;</b>
	<b>AAC+PL2x M</b>	(JAPAN model Only )	<b>MSAAC+PL2X M&lt;CR&gt;</b>

<b>EVENT</b>	<b>PARAMETER</b>	<b>function</b>	<b>example</b>
MS	NEURAL	(North America model Only)	MSNEURAL<CR>
	DOLBY D+		MSDOLBY D+<CR>
	DOLBY D+ +EX		MSDOLBY D+ +EX<CR>
	DOLBY D+ +PL2x C		MSDOLBY D+ +PL2X C<CR>
	DOLBY D+ +PL2x M		MSDOLBY D+ +PL2X M<CR>
	DOLBY TRUEHD		MSDOLBY HD<CR>
	DOLBY HD		MSDOLBY HD<CR>
	DOLBY HD+EX		MSDOLBY HD+EX<CR>
	DOLBY HD+PL2x C		MSDOLBY HD+PL2X C<CR>
	DOLBY HD+PL2x M		MSDOLBY HD+PL2X M<CR>
	DTS HD		MSDTS HD<CR>
	DTS HD MSTR		MSDTS HD MSTR<CR>
	DTS HD+NEO:6		MSDTS HD+NEO:6<CR>
	DTS HD+PL2X C		MSDTS HD+PL2X C<CR>
	DTS HD+PL2X M		MSDTS HD+PL2X M<CR>
	DTS ES 8CH DSCRT		MSDTS ES 8CH DSCRT<CR>
	QUICK1	QUICK SELECT mode change	MSQUICK1<CR>
	QUICK2		MSQUICK2<CR>
	QUICK3		MSQUICK3<CR>
	QUICK0	---User 1(or User 2 or User 3) Change User OFF	MSQUICK0<CR>
VS	MONIAUTO	HDMI MONITOR setting change	VSMONIAUTO<CR>
	MONI1		VSMONI1<CR>
	MONI2		VSMONI2<CR>
	ASPNRM	ASPECT setting change	VSASPNRM<CR>
	ASPFUL		VSASPFUL<CR>
	SC48P	SCALER setting change	VSSC48P<CR>
	SC10I		VSSC10I<CR>
	SC72P		VSSC72P<CR>
	SC10P		VSSC10P<CR>
	SCAUTO		VSSCAUTO<CR>

<b>EVENT</b>	<b>PARAMETER</b>	function	example
PS	TONE DEFEAT ON	TONE DEFEAT ON/OFF change	PSTONE DEFEAT ON<CR>
	TONE DEFEAT OFF		PSTONE DEFEAT OFF<CR>
	SB:MTRX ON	SURROUND BACK MODE change	PSSB:MTRX ON<CR>
	SB:NON MTRX		PSSB:NON MTRX<CR>
	SB:PL2xC		PSSB:PL2X CINEMA<CR>
	SB:PL2xM		PSSB:PL2X MUSIC<CR>
	SB:ON		PSSB:ON<CR>
	SB:OFF		PSSB:OFF<CR>
	SB:ESDSCRT		PSSB:ESDSCRT<CR>
	SB:ESMTRX		PSSB:ESMTRX<CR>
	CINEMA EQ.ON	CINEMA EQ. ON/OFF Change	PSCINEMA EQ.ON<CR>
	CINEMA EQ.OFF		PSCINEMA EQ.OFF<CR>
	<b>MODE:CINEMA</b>	CINEMA / MUSIC / GAME / PL mode change	<b>PSMODE:CINEMA&lt;CR&gt;</b>
	<b>MODE:MUSIC</b>		<b>PSMODE:MUSIC&lt;CR&gt;</b>
	<b>MODE:GAME</b>		<b>PSMODE:GAME&lt;CR&gt;</b>
	<b>MODE:PRO LOGIC</b>		<b>PSMODE:PRO LOGIC&lt;CR&gt;</b>
	ROOM EQ:AUDYSSEY	ROOM EQ mode direct change	PSROOM EQ:AUDYSSEY<CR>
	<b>ROOM EQ:BYP.LR</b>		<b>PSROOM EQ:BYP.LR&lt;CR&gt;</b>
	ROOM EQ:FLAT		PSROOM EQ:FLAT<CR>
	ROOM EQ:MANUAL		PSROOM EQ:MANUAL<CR>
	ROOM EQ:OFF		PSROOM EQ:OFF<CR>
	BAS **	BASS change	PSBAS 00<CR>
	TRE **	TREBLE change	PSTRE 00<CR>



<b>EVENT</b>	<b>PARAMETER</b>	<b>function</b>	<b>example</b>
<b>PS</b>	<b>DRC AUTO</b>	DRC change	<b>PSDRC AUTO&lt;CR&gt;</b>
	<b>DRC LOW</b>		<b>PSDRC LOW&lt;CR&gt;</b>
	<b>DRC MID</b>		<b>PSDRC MID&lt;CR&gt;</b>
	<b>DRC HI</b>		<b>PSDRC HI&lt;CR&gt;</b>
	<b>DRC OFF</b>		<b>PSDRC OFF&lt;CR&gt;</b>
	<b>DCO OFF</b>	D.COMP change	<b>PSDCO OFF&lt;CR&gt;</b>
	<b>DCO MID</b>		<b>PSDCO MID&lt;CR&gt;</b>
	<b>DCO LOW</b>		<b>PSDCO LOW&lt;CR&gt;</b>
	<b>DCO MID</b>		<b>PSDCO MID&lt;CR&gt;</b>
	<b>DCO HIGH</b>		<b>PSDCO HIGH&lt;CR&gt;</b>
	<b>LFE **</b>	LFE change	<b>PSLFE 10&lt;CR&gt;</b>
	<b>EFF ON</b>	EFFECT change	<b>PSEFF UP&lt;CR&gt;</b>
	<b>EFF OFF</b>		<b>PSEFF DOWN&lt;CR&gt;</b>
	<b>EFF **</b>	EFFECT LEVEL change	<b>PSEFF **&lt;CR&gt;</b>
	<b>DEL ***</b>	DELAY change	<b>PSDEL ***&lt;CR&gt;</b>
	<b>AFD ON</b>	AFDM change	<b>PSAFD ON&lt;CR&gt;</b>
	<b>AFD OFF</b>		<b>PSAFD OFF&lt;CR&gt;</b>
	<b>PAN ON</b>	PANORAMA change	<b>PSPAN ON&lt;CR&gt;</b>
	<b>PAN OFF</b>		<b>PSPAN OFF&lt;CR&gt;</b>
	<b>DIM **</b>	DIMENSION change	<b>PSDIM **&lt;CR&gt;</b>
	<b>CEN **</b>	CENTER WIDTH change	<b>PSCEN 07&lt;CR&gt;</b>
	<b>CEI **</b>	CENTER IMAGE change	<b>PSCEI 10&lt;CR&gt;</b>
	<b>ATT ON</b>	SW ATT change	<b>PSATT ON&lt;CR&gt;</b>
	<b>ATT OFF</b>		<b>PSATT OFF&lt;CR&gt;</b>
	<b>SWR ON</b>	SW ON/OFF change	<b>PSSWR ON&lt;CR&gt;</b>
	<b>SWR OFF</b>		<b>PSSWR OFF&lt;CR&gt;</b>
	<b>RSZ S</b>	ROOM SIZE change	<b>PSRSZ S&lt;CR&gt;</b>
	<b>RSZ MS</b>		<b>PSRSZ MS&lt;CR&gt;</b>
	<b>RSZ M</b>		<b>PSRSZ M&lt;CR&gt;</b>
	<b>RSZ ML</b>		<b>PSRSZ ML&lt;CR&gt;</b>
	<b>RSZ L</b>		<b>PSRSZ L&lt;CR&gt;</b>

<b>EVENT</b>	<b>PARAMETER</b>	<b>function</b>	<b>example</b>
PS	DELAY ***	AUDIO DELAY change, ***:000 to 999 by ASCII ---AVR-3808 : 200=200ms (MAX) 100=100ms, 000=0ms	PSDELAY 200<CR>
	NIGHT OFF	NIGHT MODE change	PSNIGHT OFF<CR>
	NIGHT LOW		PSNIGHT LOW<CR>
	NIGHT MID		PSNIGHT MID<CR>
	NIGHT HI		PSNIGHT HI<CR>
	RSTR OFF	AUDIO RESTORER change	PSRSTR OFF<CR>
	RSTR MODE1		PSRSTR MODE1<CR>
	RSTR MODE2		PSRSTR MODE2<CR>
	RSTR MODE3		PSRSTR MODE3<CR>
PV	CN **	CONTRAST change	PVCN 06<CR>
	BR **	BRIGHTNESS Change	PVBR 12<CR>
	CM **	CROMA LEVEL change	PVCM 06<CR>
	HUE **	Hue Change	PVHUE 06<CR>

<b>EVENT</b>	<b>PARAMETER</b>	function	example
Z2	PHONO   <b>IPOD</b>	MULTI ZONE-2 source change ---The name of PARAMETER is the same as that of the time of SI COMMAND.	Z2PHONO<CR>   <b>Z2IPOD&lt;CR&gt;</b>
	SOURCE	MULTI ZONE-2 mode cancel	Z2SOURCE<CR>
	**	MULTI ZONE-2 VOLUME change , **:10 to 99 by ASCII 98 = +18dB (MAX) 80 = 0dB 10 = -70dB 99 = --- (MIN)	Z280<CR>
	ON	MULTI ZONE-2 ON/OFF change	Z2ON<CR>
	OFF		Z2OFF<CR>
Z2MU	ON	ZONE2 OUTPUT MUTE ON/OFF change	Z2MUON<CR>
	OFF		Z2MUOFF<CR>
<b>Z2CS</b>	<b>ST</b>	ZONE2 Channel setting	<b>Z2CSST</b>
	<b>MONO</b>		<b>Z2CSMONO</b>
<b>Z2CV</b>	<b>FL **</b>	** : 38 to 62 by ASCII , 50=0dB	<b>Z2CVFL 50&lt;CR&gt;</b>
	<b>FR **</b>	** : 38 to 62 by ASCII , 50=0dB	<b>Z2CVFR 50&lt;CR&gt;</b>
<b>Z2HPF</b>	<b>ON</b>	ZONE2 HPF ON/OFF change	<b>Z2HPFON&lt;CR&gt;</b>
	<b>OFF</b>		<b>Z2HPFOFF&lt;CR&gt;</b>
<b>Z2PS</b>	<b>BAS **</b>	ZONE2 BASS change	<b>Z2PSBAS 00&lt;CR&gt;</b>
	<b>TRE **</b>	ZONE2 TREBLE change	<b>Z2PSTRE 00&lt;CR&gt;</b>

The **PARAMETER** of Z2 **EVENT** : Uses two ASCII characters. (see page4 J) section)

<b>EVENT</b>	<b>PARAMETER</b>	function	example
Z3	PHONO   IPOD	MULTI ZONE-3 source change ---The name of PARAMETER is the same as that of the time of SI COMMAND.	Z3PHONO<CR>   Z3IPOD<CR>
	SOURCE	MULTI ZONE-3 mode cancel	Z3SOURCE<CR>
	**	MULTI ZONE-3 VOLUME change , **:10 to 99 by ASCII 98 = +18dB (MAX) 80 = 0dB 10 = -70dB 99 = --- (MIN)	Z380<CR>
	ON	MULTI ZONE-3 ON/OFF change	Z3ON<CR>
	OFF		Z3OFF<CR>
Z3MU	ON	ZONE3 OUTPUT MUTE ON/OFF change	Z3MUON<CR>
	OFF		Z3MUOFF<CR>
Z3CS	ST	ZONE3 Channel setting	Z3CSST
	MONO		Z3CSMONO
Z3CV	FL **	** : 38 to 62 by ASCII , 50=0dB	Z3CVFL 50<CR>
	FR **	** : 38 to 62 by ASCII , 50=0dB	Z3CVFR 50<CR>
Z3HPF	ON	ZONE3 HPF ON/OFF change	Z3HPFON<CR>
	OFF		Z3HPFOFF<CR>
Z3PS	BAS **	ZONE3 BASS change	Z3PSBAS 00<CR>
	TRE **	ZONE3 TREBLE change	Z3PSTRE 00<CR>

The **PARAMETER** of Z3 **EVENT** : Uses two ASCII characters. (see page4 J) section)

※ANALOG TUNER Control (AVR model only)

<i>EVENT</i>	<i>PARAMETER</i>	function	example
TF	<b>AN***** (6 digits)</b>	TUNER Frequency change  --- ****.** kHz at AM band ****.** MHz at FM band	<b>TFAN105000&lt;CR&gt;</b>  <b>(1050.00kHz at AM)</b>
TP	<b>AN**(PRESET No.)</b>	TUNER PRESET change to No.**	<b>TPANA1&lt;CR&gt;</b> <b>(PRESET No."A1")</b>
TM		TUNER BAND , MODE change	
	<b>ANAM</b>	---Band set to AM	<b>TMANAM&lt;CR&gt;</b>
	<b>ANFM</b>	---Band set to FM	<b>TMANFM&lt;CR&gt;</b>
	<b>ANAUTO</b>	---Tuning mode set to AUTO mode	<b>TMANAUTO&lt;CR&gt;</b>
	<b>ANMANUAL</b>	---Tuning mode set to MANUAL mode	<b>TMANMANUAL&lt;CR&gt;</b>

※XM Control (North America model only)

<i>EVENT</i>	<i>PARAMETER</i>	function	example
TF	XM*** (3 digits)	--- **:XM CH No.	TFXM001<CR> (XM001 CH)
TP	XM**(PRESET No.)	XM PRESET change to No.**	TPXMA1<CR> (PRESET No."A1")
XM	CH NAME ***** (8 digit)	XM CH NAME change	TMCH NAME 20 on 20<CR>
	ARTIST ***** (16 digit)	XM ARTIST NAME change	TMARTIST EMINEM <CR>
	TITLE ***** (16 digit)	XM TITLE NAME change	TMTITLE JUST LOSE IT <CR>
	XMID ***** (8 digit)	XM RADIO ID(XM000 Selected)	TMXMID J3JU703B<CR>
	SIGNAL GOOD	XM ANTENNA SIGNAL STATUS change	TMSIGNAL GOOD<CR>
	SIGNAL WEAK		TMSIGNAL WEAK<CR>
	SIGNAL MARGINAL		TMSIGNAL MARGINAL<CR>
	SIGNAL NOSIGNAL		TMSIGNAL NOSIGNAL<CR>

※iRadio/mServer/USB Extended Control

EVENT	PARAMETER	function	
NSA		Onscreen Display Information is Answered By the NSA Command.	
	0	Display Line1 Information	NSA0***** _????<CR>
	1	Display Line3 Information	NSA1※***** _????<CR>
	2	Display Line4 Information	NSA2※***** _????<CR>
	3	Display Line5 Information	NSA3※***** _????<CR>
	4	Display Line6 Information	NSA4※***** _????<CR>
	5	Display Line7 Information	NSA5※***** _????<CR>
	6	Display Line8 Information	NSA6※***** _????<CR>
	7	Display Line9 Information	NSA7***** _????<CR>
	8	Display Line10 Information	NSA8***** _????<CR> *:Character Length MAX96 _:Null ?:Exclusion(The character after Null should be disregarded) ※:Cursor&Playable Music Information Data(1Byte) Bit1:Playable Music =1 Bit2,3:Don't Care Bit4:CURSOR SELECT=1 Bit5,6,7,8:Don't Care
			<example> NSA0Now Playing USB_????<CR> NSA1※Come Away With Me_???<CR> NSA2※Norah Jones_????????<CR> NSA3※_????????????????<CR> NSA4※_????????????????<CR> NSA5※00:11 100%_????????<CR> NSA6※_????????????????<CR> NSA7_????????????????<CR> NSA8_????????????????<CR>

<b>EVENT</b>	<b>PARAMETER</b>	<b>function</b>	
<b>NSE</b>		Onscreen Display Information(mserver/iRadio) is Answered By the NSE Command.	
	<b>0</b>	Display Line1 Information	NSE0***** _?????<CR>
	<b>1</b>	Display Line3 Information	NSE1※***** _?????<CR>
	<b>2</b>	Display Line4 Information	NSE2※***** _?????<CR>
	<b>3</b>	Display Line5 Information	NSE3※***** _?????<CR>
	<b>4</b>	Display Line6 Information	NSE4※***** _?????<CR>
	<b>5</b>	Display Line7 Information	NSE5※***** _?????<CR>
	<b>6</b>	Display Line8 Information	NSE6※***** _?????<CR>
	<b>7</b>	Display Line9 Information	NSE7***** _?????<CR>
	<b>8</b>	Display Line10 Information	NSE8***** _?????<CR> *:UTF-8 CODE Character(MAX95byte) _:Null ?: Don't Care (The character after Null should be disregarded) ※:Cursor&Playable Music Information Data(1Byte) Bit1: Playable Music =1 Bit2,3: Don't Care Bit4: CURSOR SELECT=1 Bit5,6,7,8: Don't Care ***** _?????:96byte Fixed
			<example> NSE0Now Playing USB_????<CR> NSE1※Come Away With Me_???<CR> NSE2※Norah Jones_????????<CR> NSE3※_????????????????<CR> NSE4※_????????????????<CR> NSE5※00:11 100%_????????<CR> NSE6※_????????????????<CR> NSE7_????????????????<CR> NSE8 ?????????????????<CR>

# ※iPod Extended Control

EVENT	PARAMETER	function	
IPA		Onscreen Display Information is Answered By the IPA Command.	
	0	Display Line1 Information	IPA0***** _??<CR>
	1	Display Line3 Information	IPA1※***** _??<CR>
	2	Display Line4 Information	IPA2※***** _??<CR>
	3	Display Line5 Information	IPA3※***** _??<CR>
	4	Display Line6 Information	IPA4※***** _??<CR>
	5	Display Line7 Information	IPA5※***** _??<CR>
	6	Display Line8 Information	IPA6※***** _??<CR>
	7	<b>Display Line9 Information</b>	<b>IPA7※***** _??&lt;CR&gt;</b>
	8	Display Line10 Information	<b>IPA8#***** _??&lt;CR&gt;</b>
	9	Display Line11 Information	<b>IPA9***** _??&lt;CR&gt;</b>
			*:Character Length MAX96 _:Null ?:Exclusion(The character after Null should be disregarded) ※:Cursor Infomation Data(1Byte) <b>Bit1:Playable Music=1</b> <b>Bit2:Display Only=1</b> Bit3:Don't Care Bit4:CURSOR SELECT=1 Bit5,6,7,8:Don't Care <b># : Bit1-8:Don't Care</b>



<b>EVENT</b>	<b>PARAMETER</b>	function	
IPA			<p>&lt;example1&gt;</p> <p>IPA0Artist????????????????&lt;CR&gt;</p> <p>IPA1✂ Ana Caram_????????????&lt;CR&gt;</p> <p>IPA2✂ Badi Assad_????????????&lt;CR&gt;</p> <p>IPA3✂ Christy Baron_????????&lt;CR&gt;</p> <p>IPA4✂ Marta Gomez_????????????&lt;CR&gt;</p> <p>IPA5✂ Rebecca Pidgeon_?????&lt;CR&gt;</p> <p>IPA6✂ Sara K_????????????????&lt;CR&gt;</p> <p>IPA7✂ Valerie Joyce_????????&lt;CR&gt;</p> <p><b>IPA8# SFL Songs RPT All_??&lt;CR&gt;</b></p> <p>IPA9 [ 2/ 6]_????????&lt;CR&gt;</p> <p>&lt;example2&gt;</p> <p>IPA0Now Playing iPod_????????&lt;CR&gt;</p> <p>IPA1✂ A HARD DAY'S NIGHT._??&lt;CR&gt;</p> <p>IPA2✂ /The Beatles_????????&lt;CR&gt;</p> <p>IPA3✂_????????????????????&lt;CR&gt;</p> <p>IPA4✂ A HARD DAY'S NIGHT_??&lt;CR&gt;</p> <p>IPA5✂ 00:04_????????????????&lt;CR&gt;</p> <p>IPA6✂_????????????????????&lt;CR&gt;</p> <p>IPA7✂_????????????????????&lt;CR&gt;</p> <p><b>IPA8# SFL Songs RPT All_??&lt;CR&gt;</b></p> <p>IPA9????????????????????&lt;CR&gt;</p>

<b><i>EVENT</i></b>	<b><i>PARAMETER</i></b>	<b><i>function</i></b>	
<b>IPE</b>		Onscreen Display Information(iPod) is Answered By the IPA Command.	
	0	Display Line1 Information	IPE0***** _???<CR>
	1	Display Line3 Information	IPE1※***** _???<CR>
	2	Display Line4 Information	IPE2※***** _???<CR>
	3	Display Line5 Information	IPE3※***** _???<CR>
	4	Display Line6 Information	IPE4※***** _???<CR>
	5	Display Line7 Information	IPE5※***** _???<CR>
	6	Display Line8 Information	IPE6※***** _???<CR>
	<b>7</b>	<b>Display Line9 Information</b>	<b>IPE7※***** _???&lt;CR&gt;</b>
	8	Display Line10 Information	<b>IPE8#***** _???&lt;CR&gt;</b>
	9	Display Line11 Information	IPE9***** _???<CR>
			*:UTF-8 CODE Character (MAX95byte) _:Null ?:Exclusion (The character after Null should be disregarded) ※:Cursor Information Data (1Byte) <b>Bit1: Playable Music=1</b> <b>Bit2: Display Only=1</b> Bit3: Don't Care Bit4: CURSOR SELECT=1 Bit5-8: Don't Care <b># : Bit1-8: Don't Care</b>

<i><b>EVENT</b></i>	<i><b>PARAMETER</b></i>	<i>function</i>	
<b>IPE</b>			<p>&lt;example1&gt;  IPE0Artist????????????????&lt;CR&gt;  IPE1✖ Ana Caram_????????????&lt;CR&gt;  IPE2✖ Badi Assad_????????????&lt;CR&gt;  IPE3✖ Christy Baron_????????&lt;CR&gt;  IPE4✖ Marta Gomez_????????&lt;CR&gt;  IPE5✖ Rebecca Pidgeon_?????&lt;CR&gt;  IPE6✖ Sara K_????????????????&lt;CR&gt;  IPE7✖ Valerie Joyce_????????&lt;CR&gt;  <b>IPE8# SFL Songs RPT All_???</b>&lt;CR&gt;  IPE9 [ 2/ 6]_????????&lt;CR&gt;</p> <p>&lt;example2&gt;  IPE0Now Playing iPod_??????&lt;CR&gt;  IPE1✖ A HARD DAY'S NIGHT._??&lt;CR&gt;  IPE2✖ /The Beatles_????????&lt;CR&gt;  IPE3✖_????????????????????&lt;CR&gt;  IPE4✖ A HARD DAY'S NIGHT_??&lt;CR&gt;  IPE5✖ 00:04_????????????????&lt;CR&gt;  IPE6✖_????????????????????&lt;CR&gt;  IPE7✖_????????????????????&lt;CR&gt;  <b>IPE8# SFL Songs RPT All_???</b>&lt;CR&gt;  IPE9_????????????????????&lt;CR&gt;</p>

※Remote Lock/Panel Lock

<i><b>EVENT</b></i>	<i><b>PARAMETER</b></i>	function	example
SY	REMOTE LOCK ON	REMOTE CONTROL LOCK ON/OFF	SYREMOTE LOCK ON<CR>
	REMOTE LOCK OFF		SYREMOTE LOCK OFF<CR>
	PANEL LOCK ON	PANEL BUTTON (Except MASTER VOL.) CONTROL LOCK ON	SYPANEL LOCK ON<CR>
	PANEL+V LOCK ON	PANEL BUTTON & MASTER VOL. CONTROL LOCK ON	SYPANEL+V LOCK ON<CR>
	PANEL LOCK OFF	PANEL BUTTUM & MASTER VOL. CONTROL LOCK OFF	SYPANEL LOCK OFF<CR>